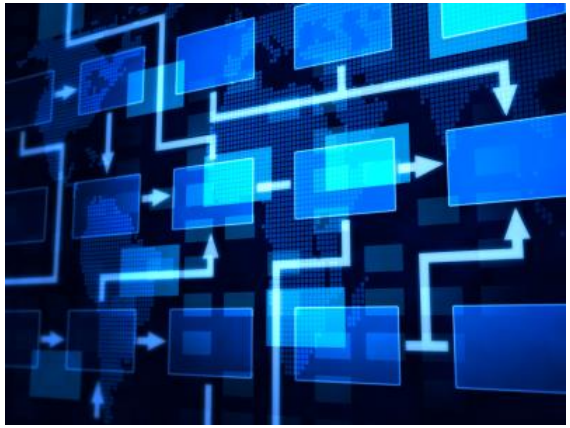

The CAPA Process

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FDA XAVIER UNIVERSITY MedCon Medical Device Conference

Agenda

I. Opening Remarks

II. CAPA Definitions (Group Discussion)

III. An Example CAPA Process (per GHTF document)

- Planning (Data Sources)
- Measurement and Analysis (Evaluation)
- Improvement (Investigation and CAPA)
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IV. Regulations – GHTF Comparison

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VI. Q & A

The CAPA Process
What is the best approach?

THE CAPA PROCESS

The GLOBAL HARMONIZATION TASK FORCE document (GHTF/SG3/N18: 2010 - published November 4, 2010) is a global collaboration that provides guidance for developing a comprehensive CAPA process. Utilization of this guidance coupled with an understanding of the applicable regulations will facilitate implementation of a robust, compliant process.

A Few Key Points to SUCCESS:

- Data into the CAPA process is good indication of Product and Process Quality.
- Understanding "CAPA" is not just a noun… it is a PROCESS that has connections across the quality system. Process interdependencies (between CAPA and complaint handling, control of nonconforming product, design defect management, internal auditing, management review) are crucial to implementing a compliant and robust process.
- Identifying DATA SOURCES and having defined action limits for data analysis along with a comprehensive RISK MANAGEMENT program enable solid decision making.
- Knowing the definitions and requirements for Corrections, Corrective Actions, and Preventive Actions is critical to taking appropriate actions.
- Defining Criteria for when to do a Cause Investigation and eventual CAPA is essential to ensuring ongoing product and process quality.
- "Closed Loop" process – Don't forget follow up after CAPA implementation – monitor effectiveness.

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Definitions

- Correction: repair, rework or adjustment and relates to the disposition of an **existing** nonconformity

- Corrective Action: the action taken to eliminate the causes of an **existing** nonconformity, defect or other undesirable situation in order to prevent recurrence.

- Preventive Action : action taken to eliminate the cause of a **potential** nonconformity, defect or other undesirable situation in order to prevent occurrence.

- Nonconformity: non-fulfillment of a specified requirement

Group Discussion: Correction, Corrective Action, or Preventive Action?

- Replace the label on the device that had the wrong label?
- Revise process parameters in response to complaints.
- Rewelding a contact that does not meet visual inspection requirements.
- SPC chart indicates process is drifting towards the upper limit for diameter of injection molded part. Investigation determines the drift is caused by wear to the mold. Mold is replaced and verify/validate the process yields parts that are meeting spec.
- Devices returned because of out-of-failures are repaired and put back into inventory.
- Defective Components damaged by ESD caused the failures and ESD controls were instituted and operators are retrained in ESD controls.

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CAPA – "The Process"

Not sure where to begin in developing a comprehensive, robust, compliant process?

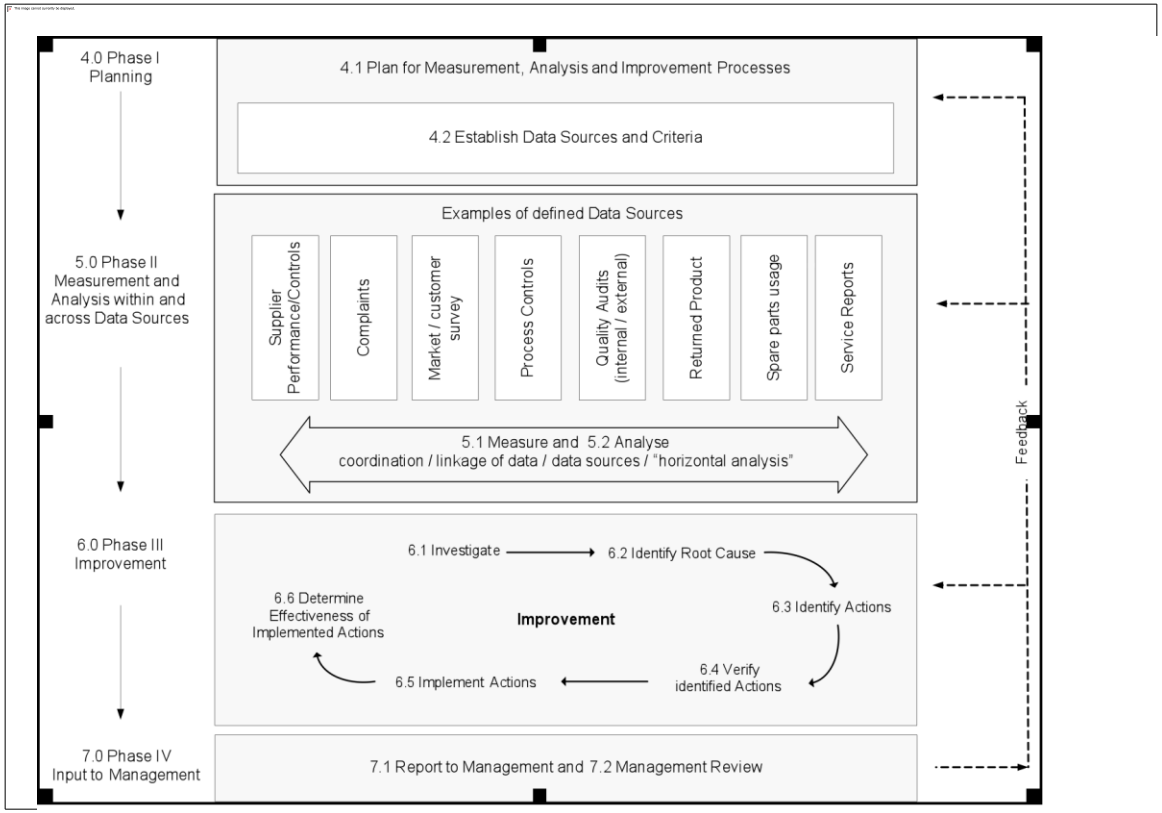
The Global Harmonization Task Force document: ***"Quality Management System – Medical Devices – Guidance on Corrective Action and Preventive Action and Related QMS Processes,"*** November 4, 2010.

Phase I: Planning

Phase II: Measurement and Analysis

Phase III: Improvement

Phase IV: Input to Management



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Phase I: Planning

- IDENTIFY DATA SOURCES and DATA ELEMENTS (INTERNAL AND EXTERNAL) THAT FEED INTO CAPA PROCESS
  (Reference: Annex B of GHTF document)

QUALITY DATA SOURCES: regulatory requirements, management review, supplier performance/controls, complaint handling/Adverse Event Reporting, Process Controls, Control of Nonconforming Product, Material Handling/Storage Controls, Inspection and Test, Quality Audits (internal and external), Corrections/Removals (Recalls), Spare Parts Usage, Service Reports, Returned Product, Service data, Product Realization, Defect Management (Design), Risk Management, Market/Customer Surveys, Scientific Literature and Media Sources.

- DEFINE DATA MONITORING AND ANALYSIS METHODS
  - HOW WILL DATA ELEMENTS WITHIN DATA SOURCES BE MEASURED?
  - WHAT IS THE FREQUENCY OF MONITORING?
  - WHAT TYPE OF DATA ANALYSIS WILL BE PERFORMED?

- DEFINE ACCEPTABLE QUALITY LEVELS
  - WHAT ARE THE ACTION LIMITS (ESCALATION CRITERIA TO MOVE TO IMPROVEMENT PHASE – CAUSE INVESTIGATION)?

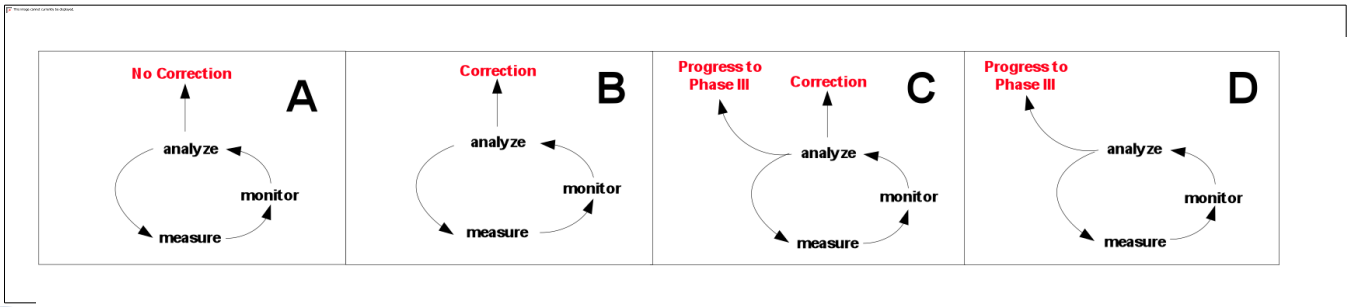
Phase II: Measurement and Analysis

I. DEFINE PROBLEM STATEMENT and SCOPE
- Based on facts at the time –
  Define Who, What, When, Where, Why, How?
- What products/processes are in problem scope?

II. IS A CORRECTION REQUIRED?
- Fix the specific nonconformance identified.
- Contain any unacceptable risk.

III. IS A FURTHER CAUSE INVESTIGATION REQUIRED (move to Improvement Phase)?
- Documented procedures should define criteria for investigation.

PHASE II DECISION POINT



Phase III: Improvement

Phase III is designed to eliminate or mitigate a nonconformity or potential nonconformity.

PHASE III STEPS include (sequentially or simultaneously):

I. A thorough investigation of the reported nonconformity
   - Magnitude and scope of investigation should be commensurate with determined risk of nonconformity.
   - Horizontal Analysis is a good method for ensuring issue is being fully investigated.

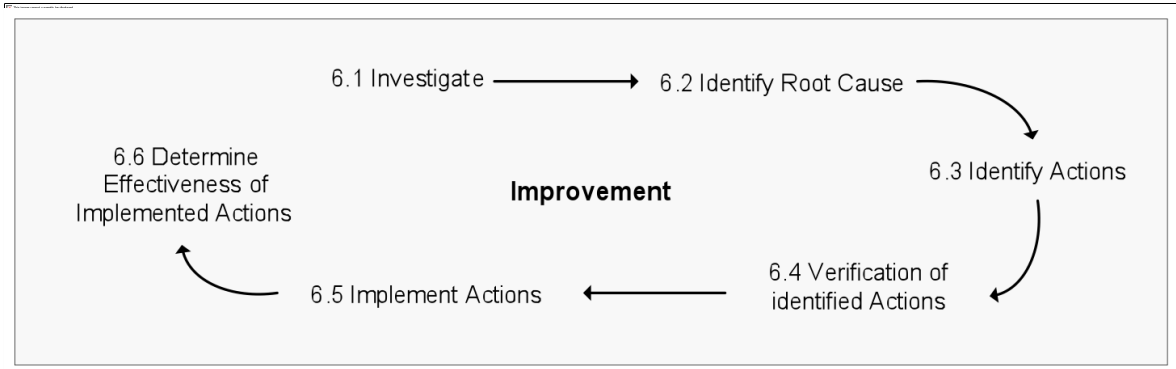
II. An in-depth root cause analysis
   - Outputs from investigation are starting point for cause determination.

III. Identification of appropriate actions
   - Further Corrections, Corrective actions, and Preventive actions

IV. Verification of identified actions (before implementation)

V. Implementation of actions

VI. Effectiveness Check of implemented actions
   - Should involve data gathering over a period of time after implementation.
   - If actions are not effective, Phase III activities should be re-initiated.



Phase IV: Input to Management

- Management in different levels in the organization should be involved in each improvement action either through approval of the improvement steps or reporting.

- The Manufacturer should have a mechanism/procedure that expedites escalation of safety related issues or other high risk issues to management.

- Management Review is the overall mechanism for management to ensure that the Quality Management System as a whole is effective.
  - Should include relevant information from the improvement processes (e.g., corrections, corrective and preventive actions)

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Guidance vs. Regulation

- Manufacturers are not required to comply with guidance documents.
  - Guidance is voluntary and is a way of doing something that FDA generally recognizes as acceptable.
- Manufacturers are required to comply with the Quality System Regulation. 21 CFR Part 820

Corrective and Preventive Actions

The term “CAPA” is not used in the GHTF document because the concept of corrective action and preventive action has been ***incorrectly interpreted to assume that a preventive action is required for every corrective action.***

Purpose of CAPA

- Collect and Analyze Information based on appropriate Statistical Methodology to detect recurring quality problems
- Identify and Investigate Existing and Potential Product and Quality Problems
- Take Appropriate, Effective and Comprehensive Corrective and/or Preventive Actions.

The CAPA Process

INPUTS

Internal and External Sources

ELEMENTS

- Analyze Data 820.100(a)(1)
- Investigate Cause 820.100(a)(2)
- Identify Action 820.100(a)(3)
- Verify/Validate Effectiveness 820.100(a)(4)
- Document 820.100(b

OUTPUTS

Implementing Changes 820.100(a)(5)

Disseminate Information 820.100(a)(6)

Submit for Management Review 820.100(a)(7)

GHTF Phase I and the QS Regulation

- 4.1 Planning for Measurement, Analysis and Improvement Processes
- 4.2 Establish Data Sources and Criteria

- 820.100(a), …establish and maintain procedures for implementing corrective and preventive action.
- 820.100(a)(1), Analyzing processes, work operations, concessions, quality audit reports, quality records, service records, complaints, returned product, and other sources of quality data to identify existing and potential causes of nonconforming product, or other quality problems.

GHTF Phase II and the QS Regulation

- 5.1 Measurement
- 5.2 Analysis

- 820.100(a)(1), Analyzing processes, work operations, concessions, quality audit reports, quality records, service records, complaints, returned product, and other sources of quality data to identify existing and potential causes of nonconforming product, or other quality problems.

GHTF Phase III and the QS Regulation

- 6.1 Investigate
- 6.2 Identify Root Cause

- 820.100(a)(2), Investigating the cause of nonconformities relating to product, processes, and the quality system;

- 6.3 Identify Actions

- 820.100(a)(3), Identifying the action(s) needed to correct and prevent recurrence of nonconforming product and other quality problems;

GHTF Phase III and the QS Regulation cont.

- 6.4 Verification of Identified Actions

- 820.100(a)(4), Verifying or validating the corrective and preventive action to ensure that such action is effective and does not adversely affect the finished device;

- 6.6 Determine Effectiveness of Implemented Actions
- 6.5 Implement Actions

- 820.100(a)(5), Implementing and recording changes in methods and procedures needed to correct and prevent identified quality problems;

GHTF Phase IV and the QS Regulation

- 7.1 Reporting to Management
- 7.2 Management Review

- 820.100(a)(6) Ensuring that information related to quality problems or nonconforming product is disseminated to those directly responsible for assuring the quality of such product or the prevention of such problems.
- 820.100(a)(7) Submitting relevant information on identified quality problems, as well as corrective and preventive actions, for management review.

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CAPA Deficiencies

The following slides address areas of the CAPA system that are deficient and result in FDA-483 observations:

Data Analysis

- Define what the data sources are and how and how often they will be analyzed.
- Not every complaint is a CAPA, BUT you must have the appropriate mechanism in place to determine when a situation merits a formal CAPA .
- Need to assess the Risk.

Data Analysis
21 CFR 820.100(a)(1)

- **Appropriate statistical methodology shall be employed where necessary** to detect recurring quality problems

Statistical Analysis of Data Sources

"FDA emphasizes that the appropriate statistical tools must be employed when it is necessary to utilize statistical methodology. FDA has seen far too often the misuse of statistics by manufacturers in an effort to minimize instead of address the problem. Such misuse of statistics would be a violation of this section."

61 Fed Reg at 52634, Comment 160

Risk Based Decisions in CAPA

- Define what risk to the patient and/or user is used to:
  - Triage CAPA items/Determine priorities
  - Determine the severity of the impact
  - Determine the depth of investigation
  - Assign resources
  - Determine the level of Corrective and/or Preventive Action

Risk Based Decisions in CAPA

"FDA **does** expect the manufacturer to develop procedures for assessing the risk, the actions that need to be taken for different levels of risk, and how to correct or prevent the problem from recurring, depending on that risk assessment."

61 Fed Reg at 52633-52634, Comment 159

Action Based on Risk

- Has this hazard been defined in the risk analysis that was performed during the Design Phase?

- If yes, what is the risk (i.e.: severity and frequency)?

Identify Actions Needed 21 CFR 820.100(a)(3)

- Identify the action(s) needed to **correct and prevent recurrence** of non-conforming product and other quality problems.

CAPA and Risk Management

"FDA agrees that the degree of corrective and preventive action taken to eliminate or minimize actual or potential nonconformities must be appropriate to the magnitude of the problem and commensurate with the risks encountered."

61 Fed Reg at 52633-52634, Comment 159

Action Based on Risk

- Document the decision making rationale in the CAPA record.
  - Corrective action is for devices that will be made after the change is implemented.
  - Correcting devices in-house but not devices in the field.

WHY ??

Verify and Validate
21 CFR 820.100(a)(4)

Verify and Validate the corrective and preventive action to **ensure that such action is effective and does not adversely affect the finished device.**

Was it EFFECTIVE?

Did my solution work?

Did it create other nonconformances?

Q & A